

ABSTRACT OF THE DISCLOSURE

A system utilizing a number of micro-strip antenna apparatus embedded in or mounted on the surface of a structure for enabling wireless communication of sensed and actuation signals.

5 The micro-strip antenna apparatus may include smart materials or other substrates. If only a sensed operation is desired, the micro-strip antenna apparatus may be fabricated from only passive elements or materials. Furthermore, a micro-strip antenna apparatus is provided which enables simultaneous transmission/reception of sensing and actuation signals.